





RCRA Requirements for Industrial Facilities

Jeffrey A. Smith

Environmental Engineer

South Florida Water Management District

Surgeon General's Warning:

This presentation may cause a lack of oxygen to the brain which could lead to bouts of yawning and fatigue.

Today's Society

- 66 words in the Lord's Prayer
- 286 words in the Gettysburg Address
- 1,322 words in the Declaration of Independence
- 26,911 words needed to regulate garbage

What is RCRA?

- No, it's not an acronym for the
“Really Confusing Regulation Act.”

What is RCRA?

- Resource Conservation and Recovery Act of 1976
- Hazardous and Solid Waste Amendments Act of 1984

Purpose and Scope of RCRA Program

- Protect human health and the environment
- Provide standards for hazardous waste generators, transporters and treatment, storage and disposal facilities
- Ensure wastes that are land disposed meet either concentration based or treatment based standards
- Create cradle to grave liability

Authority

- Section 3007 of RCRA provides authority to EPA or designated representative to conduct RCRA inspections
- Florida is an authorized state
- Under the MOA with EPA, DEP cannot delegate authority for RCRA to local programs
- County may be more stringent

Liability

- Where more than one “person” generates a hazardous waste they are “co-generators” and have joint and several liability.
- Land owners, operators and/or contractors can all be co-generators for the same waste.
- 45 FR 72024 - 72028 clarifies that a generator includes entities that contribute to the generation of a hazardous waste because they OWN the unit or property that gives rise to the generation of the waste.

Liability

- Co-Generation
 - Sabre Tech/ValuJet Incident
 - Site Owner/Facility/Operators/Contractors can all have liability
 - All parties are jointly and severally liable for hazardous waste
- Maintain oversight of contractors!!

Inspections

- Authority - Section 403.091, F.S.
- Unannounced
- Annual Florida RCRA Workplan
- Site Selection - Based on complaints, referrals from local government, non-notifiers, random, initiatives or just your lucky day

Step 1: Hazardous Waste Identification

- What is a Solid Waste?
- What is a Hazardous Waste?

What is a Solid Waste

- Discarded material
- Abandoned
- Recycled
- Inherently Waste-Like

Hazardous Wastes

- Listed
 - Non Specific Sources
 - Specific Sources
 - Commercial Chemicals
- Characteristic
 - Ignitability, Corrosivity, Reactivity, Toxicity

Hazardous Wastes: Listed

- Listed
 - F listed codes
 - K listed codes
 - P & U listed codes
- No analysis needed
- Hazardous based on the process it is generated from

Hazardous Wastes

- Common Listed Wastes
 - Paint related wastes
 - Spent solvents
 - Off-spec chemicals (laboratory)
 - Rags contaminated with listed solvents
 - Debris contaminated with listed waste
 - Pharmaceutical wastes
 - Plating sludges

Hazardous Wastes: Characteristic

- Characteristic
 - Ignitability
 - Corrosivity
 - Reactive
 - Toxicity (TCLP Analysis)
- Analysis required
- Hazardous based on concentration of constituent or physical property

Ignitability

D001

- Liquids, Flash Point $\leq 140^{\circ}\text{F}$
 - $<24\%$ alcohol / water solutions excluded
- Ignitable compressed gases per DOT rules
- Oxidizers per DOT rules
- Non liquids which can cause fire through friction, absorption of moisture or spontaneous combustion. When ignited, burn so vigorously and persistently that it creates a hazard.

Corrosivity

D002

- Aqueous, $\text{pH} \leq 2$ or ≥ 12.5
- Liquid, corrodes SAE 1020 steel at 1/4 in./year at 55° C by NACE Method TM-01-69

Reactivity

D003

- Normally unstable - violent changes
- Water reactive
- Forms explosive mixtures with water
- When mixed with water, generates toxic gasses
- Cyanide or Sulfide wastes
- Forbidden, Class A or Class B DOT Explosives

Toxicity Characteristic D004-D043

- TCLP Test
 - Simulates degradation in landfill
 - Analyze leachate
- 40 Toxic Constituents
 - 8 heavy metals
 - Pesticides
 - Other organics

Hazardous Wastes

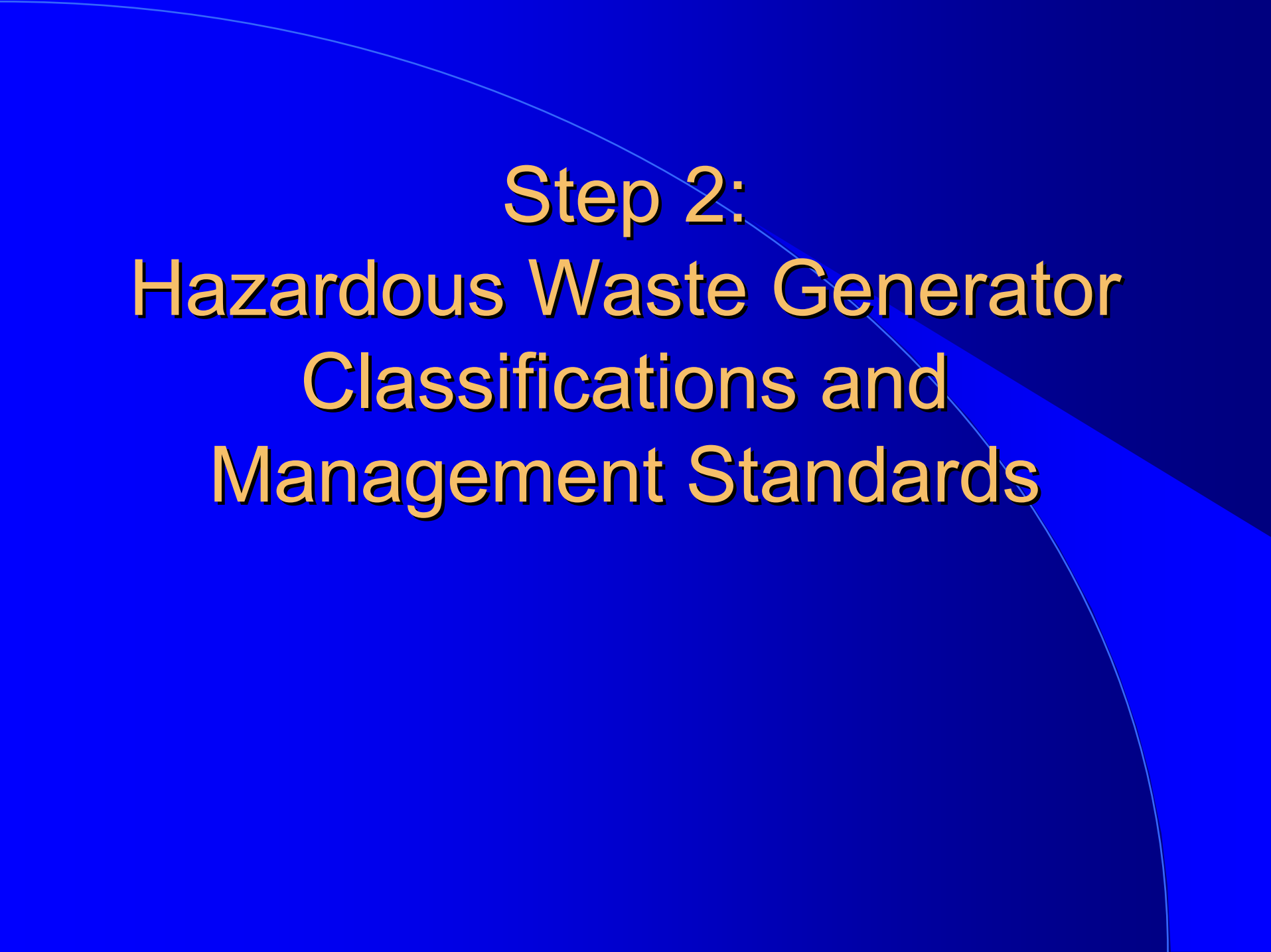
- Common Characteristic Wastes
 - Photographic/x-ray waste (silver)
 - Spent non-halogenated solvents from parts washing units (mineral spirits/lacquer thinner)
 - Incinerator ash
 - Caustic/acid solutions
 - Mercury (fluorescent) lamps
 - Various Sludges
 - Oxygen canisters
 - Blasting media wastes

Used Oil

- Used oil does not count towards a generator's HW status (unless it is mixed with HW)
- Used oil managed under 40 CFR 279 and Chapter 62-710, F.A.C.
- Rule 62-710.401(4), F.A.C.: Mixtures of used and haz waste with total halogen conc. $>1,000$ ppm is haz waste regardless of generator's status (i.e. CESQG mixing haz waste with used oil)

Waste Determinations Summary

- Is it Listed?
- Is it Characteristically Hazardous?
 - Testing
 - Product or Process Knowledge
 - Process contamination
 - Break down products
 - Trace contaminants
 - MSDS useful but limited - 1% Rule

The background is a solid blue color. A thin, white, curved line starts from the top left, arcs across the top, and curves down towards the bottom right corner.

Step 2: Hazardous Waste Generator Classifications and Management Standards

Generator Status

- Conditionally Exempt SQG
 - Generates less than 100 kg/mo
 - may not accumulate more than 1,000 kg
- Small Quantity Generator
 - Generates 100 kg/m to 1000 kg/m
 - may not accumulate more than 6,000 kg
- Large Quantity Generator
 - Generates greater than 1000 kg/m

CESQG Requirements

- Hazardous Waste Determination
- Generate $>100\text{kg}/\text{mo}$ ($\sim 1/2$ drum)
- Generate $>1\text{kg}/\text{mo}$ of acute HW
- Never accumulate $>1,000\text{kg}$ on-site (~ 5 drums)
- No time clock, only storage capacity
- Recycle or Ensure Proper Disposal
- Keep Records per Ch. 62-730, F. A. C. (receipts for disposal)

CESQG Requirements

- Be advised, if a CESQG does not follow the reduced management standards in 40 CFR 261.5, they are subject full regulation under 40 CFR 262

Parts Washers

- The haz waste generated from a parts washer can not be averaged out over the period of the service interval. Total volume is counted towards the month the waste is generated.

Small Quantity Generator Requirements

- Hazardous Waste Determination
- Obtain EPA identification number
- Ensure delivery to permitted TSDF
- May use tolling agreement instead of manifest
- 180 day storage limit without permit
- Never accumulate >6000kg on-site (~30 drums)

Small Quantity Generator Requirements

- Training (not documented)
- Emergency Planning
- Posting information near phones
- No biennial report
- 60 day exception reports

Large Quantity Generators

- Obtain EPA identification number
- 90 day storage limit without permit
- Manifests required
 - No tolling agreements
- Contingency plan (written)
- Training (documented)
- Biennial report (March 1 of even years)
- 45 day exception reports

Jeffrey's Helpful Hints for Contingency Plans

- Verify phone numbers at least once per year
- It shouldn't take you more than 24 hours to locate your written Contingency Plan
- Don't have your written Contingency Plan in an electronic format only
- Deceased parties shouldn't be listed as your Emergency Coordinator

On-Site Management

- Accumulation Units
 - CESQGs - tanks and containers
 - SQGs - tanks and containers
 - LQGs - tanks, containers, containment buildings and drip pads
- On-site treatment allowed in above accumulation units provided certain requirements are achieved

Containers

- Labeled “Hazardous Waste”
- Marked with Date of Accumulation
- Must be maintained closed
- Comply with 40 CFR 265, Subpart I
 - Containers in good condition, closed, compatible with contents, inspected weekly
 - 50 foot setback from property boundary/lease hold for ignitable or reactive waste for LQGs

Satellite Accumulation

- 55-gallons Maximum
- At or near the Point of Generation
- Labeled “Hazardous Waste” or other Words that Describe Contents
- Mark waste accumulated in excess of 55-gallons with the date of accumulation
- 72 hours to move to storage area

Empty Containers

- All wastes have been removed by conventional methods
- AND < 1 inch of residue on bottom
 - OR $< 3\%$ by weight remaining in containers of < 110 gallons
 - $< 0.3\%$ by weight of the capacity of a container > 110 gallons
- Containers that have held acutely hazardous wastes must be triple rinsed (pesticides, etc.)

Tanks

- Label “Hazardous Waste”
- Document 90/180 day storage limit compliance
- Comply with 40 CFR 265.201 (SQG)
- Comply with 40 CFR 265, Subpart J (LQG)
 - P. E. Certification
 - Secondary containment
 - Daily inspections

Record Keeping



Record Keeping & Reporting

- Copies of Hazardous Waste Determinations and Analyses
- Manifests/Land Disposal Notifications
- Exception Reports
- Biennial Reports
- Contingency Plan
- Training Records
- Inspection Logs
- Maintain Documents for 3 years (forever?)

Rule 62-730.160, F. A. C. Requirement

- Effective 1/5/95
- Container Inspection Records
 - Date
 - Time
 - Legibly written name of the inspector
 - Number of containers
 - Condition of containers
 - Notes of observations made, date and nature of repairs or corrective actions

Land Ban

- LDR Notification
- LDR Certification
- Retain Documentation for 3 years (forever?)
- Waste Analysis Plan
- Pursuant to 40 CFR 268.7, generators can use a one time LDR. Can be problem with local programs.

DEP Contacts

- Kathy Winston
Environmental Manager
400 N. Congress Ave, Suite 200
West Palm Beach, Florida 33401
561/681-6670
- kathy.winston@dep.state.fl.us
- Web Site: www.dep.state.fl.us

Pop Quiz

- Must an SQG obtain an EPA ID number?
- What is the maximum volume that can be stored at a satellite accumulation point?
- Do you have to perform analysis on listed hazardous waste?
- Do satellite containers need accumulation start dates?
- Maximum time allowed for an SQG to accumulate HW on site without a permit?
- When can a HW container be open?
- Was there a shot from the grassy knoll?

